

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Backes	
Application No.: 10/781219	Group Art Unit: 2618
Filed: 2/18/2004	Examiner: Trinh
Title: Apparatus for Self-Adjusting Power at a Wireless Station to Reduce Inter-channel Interference	
<u>Attorney Docket No.: 160-027</u>	
Commissioner for Patents Mail Stop Appeal Brief-Patents Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450	

APPELLANT'S BRIEF PURSUANT TO 37 C.F.R. § 1.192

This Appellant's brief is hereby submitted in accordance with a Notice of Appeal filed contemporaneously with this Brief.

I. Real Party in Interest

The real party in interest is Autocell Laboratories, Inc.

II. Related Appeals and Interferences

Appellants are not aware of any appeals or interferences that are related to the present case.

III. Status of the Claims

Claims 1-5 are pending in this application. This is an appeal of the decision by the Examiner dated February 28, 2007, finally rejecting all of the pending claims. None of the claims have been allowed. The rejections of claims 1 through 5 are the subject of this appeal.

IV. Status of Amendments

Claims 1 and 3 were amended in the most recently submitted amendment, which was filed December 13, 2006. That amendment was entered and considered by the Examiner.

V. Summary of Claimed Subject Matter

The subject matter of independent claims 1-5 is a method for use by a mobile station in a wireless communications environment. According to the method, the station is responsive to a message indicative of an amount by which to attenuate transmit power. In other words, the access point does not instruct the

station “transmit at power x,” but rather “reduce transmit power by x.” One advantage of the claimed invention is that it is not necessary to track or calculate actual transmit power. In a wireless environment, received power level does not indicate transmitted power level because of relatively rapid attenuation. Further, signaling power level provides no indication of power attenuation, nor any indication of ability to increase power. Intentional attenuation of transmit power of the station reduces the RF footprint of the station, and therefore reduces the likelihood of interfering with neighboring devices.

The limitations “receiving a message from the access point, the message containing information indicative of an amount by which to attenuate transmit power; and adjusting transmit power by the indicated amount in response to the information in the message” recited in claim 1 are supported in the Specification at page 50 in section “4.b STA Power Adjustment.” In particular, note the statement that “upon receipt of an Announce message (step 556), the STA notes the TP Backoff value in the Announce message and adopts that value as the STA’s own TP Backoff (step 558).” As described in the specification at page 19, and supporting claims 2 and 3, “the TP Backoff value indicates how far from maximum power the sending AP’s radio has been turned down.” In support of claim 4, note that the Specification states that “DRCP messages are passed between APs and APS, as well as between APs and STAs to implement this functionality.” Page 15, last paragraph through page 16, first paragraph. Claim 5 is supported by the sections cited above with regard to claims 1 and 2.

VI. Grounds of Rejection to be Reviewed on Appeal

Claims 1-4 were rejected under 35 U.S.C. 103(a) as being unpatentable over Shpak (U.S. Patent No. 6,907,229) in view of Rotstein (U.S. Pub. No. 2004/0057507).

Claim 5 was rejected under 35 U.S.C. 102(e) as being anticipated by Shpak.

VII. Argument

A. The cited combination fails to suggest executing an instruction from the access point to the STA to backoff power by a specified amount

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). “All words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). Appellants assert that the combination of Shpak and Rotstein fails to disclose or suggest the claimed limitation of “receiving a message from the access point, the message containing information indicative of an amount by which to attenuate transmit power; and adjusting transmit power by the indicated amount in response to the information in the message.”

The Office concedes that Shpak fails to disclose the limitation “the message containing information indicative of an amount by which to attenuate transmit power.” However, the Office suggests that Rotstein teaches the limitation at Figures 1-4, and in message (300). Applicant respectfully disagrees.

One distinction between Rotstein and the claimed invention is that Rotstein’s AP sends data representing the power level at which the AP has been set,¹ rather than the magnitude of transmit power attenuation. The station may compare transmit power level with the received power level to estimate link path loss, but that does not provide an indication of transmit power **attenuation by the access point**. Since there appears to be some confusion on this point, it should be noted that transmit power attenuation in the context of the present application is not link path loss, but rather the intentional reduction of power by the access point and station to reduce RF footprint. Consequently, when an access point signals a power attenuation of X dB in accordance with the present invention, the station learns (1) the amount by which it should reduce its own transmit power, and (2) the amount by which the access point can increase power to provide better service or accommodate movement away from the access point. In contrast, the cited combination at best indicates to the station the amount of link path loss between the access point and station.

Another distinction between Rotstein and the claimed invention is that Rotstein fails to instruct the station to adjust power in any way. As shown in Figure 4, Rotstein’s MS sets power level in response to the estimated link path loss. Since the access point has no control over link path loss, the access point

¹ transmit power (202) in Fig. 3, paragraph 0016

does not dictate transmit power level to the station. In other words, the Rotstein station fails to adjust “transmit power by the indicated amount in response to the information in the message” as recited in claim 1 (emphasis added).

Claims 2-4 are dependent claims which further distinguish claim 1, and which are allowable for the same reasons as claim 1. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

B. Shpak fails to teach adjusting transmit power by setting the station's transmit power to the transmit backoff level received in the message

Claim 5 distinguishes Shpak because the station attenuates its transmit power by an amount signaled from the access point. Shpak teaches that an access point first adjusts transmit power based on negotiations with another access point², and then either selects another time interval³ or revises the partitioning scheme.⁴ The result is a determination of which access point supports a particular station. The present invention concerns power adjustment signaling between an access point and a station. There is no teaching in the Shpak patent that the **station** is operative to adjust power in response to signaling from the access point.

It should also be noted that causing the access point to issue an instruction to the station to backoff power by a specified amount is distinct from causing the access point to instruct the station to transmit at a particular power. As stated in

² Column 9, lines 14-20

³ Column 10, lines 1-5

⁴ Column 10, lines 19-25

the specification, the TP Backoff value indicates how far from maximum power the sending access point's radio has been turned down.⁵ In the case where the instruction is to transmit at a particular power, the access point must know and track the stations's power level and path loss at all times in order to be able to calculate a new power level which might achieve a desired result, whereas an access point in accordance with the claimed invention need not know the actual transmit power level and path loss of the station.

⁵ Page 19, last sentence

VIII. Conclusion

Appellants submit therefore that the rejections of the present claims 1-5 under 35 U.S.C. 102 and 103, based on Shpak, and also on Shpak in view of Rotstein are improper for at least the reasons set forth above. Appellants accordingly request that the rejections be withdrawn and the case put forward for allowance.

Respectfully submitted,

By: /Holmes W. Anderson/

Holmes W. Anderson
Reg. No. 37,272
Attorney for Assignee

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McGuinness & Manaras LLP
125 Nagog Park
Acton MA 01720
(617) 630-1131

Appendix A - Claims

1. (previously presented) A method for use by a station capable of communicating via an access point in a wireless communications network via a radio frequency channel, comprising the steps of:
receiving a message from the access point, the message containing information indicative of an amount by which to attenuate transmit power; and
adjusting transmit power by the indicated amount in response to the information in the message.
2. (original) The method of claim 1 wherein the information is a transmit backoff level that indicates how far the access point's power has been reduced.
3. (previously presented) The method of claim 2 wherein the step of adjusting transmit power reduces the station's transmit power relative to maximum transmit power by the transmit backoff level received in the message.
4. (original) The method of claim 3 further comprising the steps of: transmitting messages to other devices in the wireless communications network, the messages including a power backoff level indicative of the amount by which the station's transmit power has been adjusted.

5. (original) A method for use by a station capable of communicating in a wireless communications network via a radio frequency channel, comprising the steps of:
receiving a message from an access point, the message containing a transmit power backoff level that indicates how far the access point's power has been reduced;
adjusting transmit power by setting the station's transmit power to the transmit backoff level received in the message; and
transmitting messages to other devices in the wireless communications network, the messages including a power backoff level indicative of the amount by which the station's transmit power has been adjusted.

Appendix B - Evidence Submitted

None.

Appendix C - Related Proceedings

None.